

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A computer-implemented method for improving service accounting in a network, the method comprising the steps of:
in response to a first A[[a]]uthentication, A[[a]]uthorization, and A[[a]]ccounting (AAA) server receiving a request to authenticate and authorize a client,
said first server obtaining an accounting record for the client and
said first server sending an a Remote Authentication Dial In User Service protocol (RADIUS) access authorization-accept message that includes at least a portion of the accounting record within the access accept message;
causing at least a portion the accounting record to be logged; and
a second authentication, authorization, and accounting AAA server receiving, subsequent to the sending, a RADIUS start session message that includes at least a portion the accounting record within the start session message.
2. (Currently amended) A computer-implemented method as recited in Claim 1, further comprising the step of obtaining the accounting record for the client from an external resource.
3. (Currently amended) A computer-implemented method as recited in Claim 2, further comprising the step of obtaining the accounting record for the client from a Lightweight Directory Access Protocol directory.
4. (Currently amended) A computer-implemented method as recited in Claim 1, wherein the client is selected from the group consisting of a wireless network client, a wired network client, and a dial up client.
5. (Currently amended) A computer-implemented method as recited in Claim 1, wherein the step of causing to be logged comprises causing at least a portion of the accounting record to be logged on a dedicated logging device.

6. (Currently amended) A computer-implemented method as recited in Claim 1, wherein the step of causing to be logged comprises causing at least a portion of the accounting record to be logged on an A[[a]]uthentication, A[[a]]uthorization, and A[[a]]ccounting server.
7. (Currently amended) A computer-implemented method as recited in Claim 1, wherein the step of causing to be logged comprises causing at least a portion of the accounting record to be logged on a network device.
8. (Currently amended) A computer-implemented method as recited in Claim 1, wherein the step of causing to be logged comprises causing logging at least a portion of the accounting record to be logged with a session start log entry.
9. (Currently amended) A computer-implemented method as recited in Claim 1, wherein the step of causing to be logged comprises causing logging at least a portion of the accounting record to be logged with a session stop log entry.
10. (Currently amended) A computer-implemented method as recited in Claim 1, wherein the accounting record comprises a handle to a second accounting record.
11. (Currently amended) A computer-implemented method as recited in Claim 10, further comprising the steps of:
 retrieving the second accounting record using the handle to the second accounting record;
 and
 causing at least a portion of the second accounting record to be logged.
12. (Currently amended) A computer-implemented method as recited in Claim 1, wherein the step of said first server sending at least a portion of the accounting record further comprises said first server sending data of said portion as in a plurality of attribute-value pairs in said access accept message.

13. (Canceled)
14. (Currently amended) A computer-implemented method as recited in Claim 1, wherein said portion of the accounting record sent in said access accept message comprises data used by said first Authentication, Authorization, and Accounting server to authorize the client particular data set is used in the step of authenticating and authorizing and the accounting record comprises said particular data set.
15. (Currently amended) A computer-implemented method for improving service accounting in a network, the method comprising the steps of:
in response to a network device client sending a an authentication and authorization request to authorize a client to a first A[[a]]uthentication, A[[a]]uthorization, and A[[a]]ccounting (AAA) server, the network device receiving, from said first server, a Remote Authentication Dial In User Service protocol (RADIUS) an accounting record in an access authorization accept message that includes at least a portion of an accounting record for the client within the access accept message, the accounting record for the client having been obtained by said first server; causing at least a portion of the accounting record to be logged; and the network device client sending to a second authentication, authorization, and accounting AAA server, subsequent to sending the authorization request, a RADIUS start session message that includes at least a portion of the accounting record within the start session message.
16. (Currently amended) A computer-implemented method as recited in Claim 15, wherein the step of causing to be logged comprises causing at least a portion of the accounting record to be logged on a dedicated logging device.
17. (Currently amended) A computer-implemented method as recited in Claim 15, wherein the step of causing to be logged comprises causing at least a portion of the accounting record to be logged on an A[[a]]uthentication, A[[a]]uthorization, and A[[a]]ccounting (AAA) server.

18. (Currently amended) A computer-readable storage medium storing ~~one or more sequences of~~ instructions which, when executed by one or more processors, causes the one or more processors to perform ~~the method recited in Claim 1;~~ in response to a first Authentication, Authorization, and Accounting (AAA) server receiving a request to authorize a client, said first server obtaining an accounting record for the client and said first server sending a Remote Authentication Dial In User Service protocol (RADIUS) access accept message that includes at least a portion of the accounting record within the access accept message; causing at least a portion the accounting record to be logged; a second AAA server receiving a RADIUS start session message that includes at least a portion the accounting record within the start session message.
19. (Currently amended) A computer-readable storage medium as recited in Claim 18 and storing ~~one or more sequences of~~ instructions which, when executed by one or more processors, causes the one or more processors to perform: ~~the method recited in Claim 2~~ obtaining the accounting record for the client from an external resource.
20. (Currently amended) A computer-readable storage medium as recited in Claim 19 and storing ~~one or more sequences of~~ instructions which, when executed by one or more processors, causes the one or more processors to perform: ~~the method recited in Claim 3.~~ obtaining the accounting record for the client from a Lightweight Directory Access Protocol directory.
21. (Currently amended) A computer-readable storage medium as recited in Claim 18, wherein the client is selected from the group consisting of a wireless network client, a wired network client, and a dial up client. ~~storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 4.~~

22. (Currently amended) A computer-readable storage medium as recited in Claim 18, wherein the instructions for causing to be logged comprise instructions for causing at least a portion of the accounting record to be logged on a dedicated logging device, storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 5.
23. (Currently amended) A computer-readable storage medium as recited in Claim 18, wherein the instructions for causing to be logged comprise instructions for causing at least a portion of the accounting record to be logged on an Authentication, Authorization, and Accounting server, storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 6.
24. (Currently amended) A computer-readable storage medium as recited in Claim 18, wherein the instructions for causing to be logged comprise instructions for causing at least a portion of the accounting record to be logged on a network device, storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 7.
25. (Currently amended) A computer-readable storage medium as recited in Claim 18, wherein the instructions for causing to be logged comprise instructions for causing at least a portion of the accounting record to be logged with a session start log entry, storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 8.
26. (Currently amended) A computer-readable storage medium as recited in Claim 18, wherein the instructions for causing to be logged comprise instructions for causing at least a portion of the accounting record to be logged with a session stop log entry, storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 9.

27. (Currently amended) A computer-readable storage medium as recited in Claim 18,
wherein the accounting record comprises a handle to a second accounting record, storing
one or more sequences of instructions which, when executed by one or more processors,
causes the one or more processors to perform the method recited in Claim 10.

28. (Currently amended) A computer-readable storage medium as recited in Claim 27 and
storing one or more sequences of instructions which, when executed by one or more
processors, causes the one or more processors to perform: the method recited in Claim 11,
retrieving the second accounting record using the handle to the second accounting record;
and
causing at least a portion of the second accounting record to be logged.

29. (Currently amended) A computer-readable storage medium as recited in Claim 18,
wherein the instructions for said first server sending at least a portion of the accounting
record further comprise instructions for said first server sending data of said portion as a
plurality of attribute-value pairs in said access accept message, storing one or more
sequences of instructions which, when executed by one or more processors, causes the
one or more processors to perform: the method recited in Claim 12.

30. (Canceled)

31. (Currently amended) A computer-readable storage medium as recited in Claim 18,
wherein said portion of the accounting record sent in said access accept message
comprises data used by said first Authentication, Authorization, and Accounting server to
authorize the client, storing one or more sequences of instructions which, when executed
by one or more processors, causes the one or more processors to perform the method
recited in Claim 14.

32. (Currently amended) A computer-readable storage medium storing one or more
sequences of instructions which, when executed by one or more processors, causes the
one or more processors to perform: the method recited in Claim 15.

in response to a network device sending a request to authorize a client to a first Authentication, Authorization, and Accounting (AAA) server, the network device receiving, from said first server, a Remote Authentication Dial In User Service protocol (RADIUS) access accept message that includes at least a portion of an accounting record for the client within the access accept message, the accounting record for the client having been obtained by said first server;
causing at least a portion of the accounting record to be logged;
the network device sending to a second AAA server a RADIUS start session message that includes at least a portion of the accounting record within the start session message.

33. (Currently amended) A computer-readable storage medium as recited in Claim 32, wherein the instructions for causing to be logged comprise instructions for causing at least a portion of the accounting record to be logged on a dedicated logging device. storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 16.
34. (Currently amended) A computer-readable storage medium as recited in Claim 32, wherein the instructions for causing to be logged comprise instructions for causing at least a portion of the accounting record to be logged on an Authentication, Authorization, and Accounting (AAA) server. storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 17.
35. (Canceled)
36. (Canceled)
37. (Currently amended) A computer-implemented method as recited in Claim 1, wherein said first server and said second server are the same A[[a]]uthentication, A[[a]]uthorization, and A[[a]]ccounting (AAA) server.

38. (Currently amended) A computer-implemented method as recited in Claim 1, wherein said first server and said second server are different load balanced Authentication, Authorization, and Accounting servers that are both configured to implement the Remote Authentication Dial In User Service protocol (RADIUS) network protocol.

39. (Canceled)

40. (Canceled)

41. (Currently amended) A computer-readable storage medium as recited in Claim 18, wherein said first server and said second server are the same Authentication, Authorization, and Accounting (AAA) server, storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 37.

42. (Currently amended) A computer-readable storage medium as recited in Claim 18, wherein said first server and said second server are different load balanced Authentication, Authorization, and Accounting servers that are both configured to implement the Remote Authentication Dial In User Service protocol (RADIUS) network protocol, storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 38.

43. (New) The computer-implemented method of Claim 1, wherein the step of said first server sending a Remote Authentication Dial In User Service protocol (RADIUS) access accept message that includes at least a portion of the accounting record further comprises sending the portion in RADIUS Class Attributes or RADIUS Vendor Specific Attributes.

44. (New) The computer-implemented method of Claim 10, wherein the handle to the second accounting record comprises an identifier of the second accounting record that uniquely identifies the second accounting record from among a plurality of accounting records.

45. (New) The computer-implemented method of Claim 44, wherein the identifier of the second accounting record comprises one or more of an internet protocol address associated with the client, an internet protocol address associated with the first or second Authentication, Authorization, and Accounting (AAA) server, or a random string.
46. (New) The computer-readable storage medium of Claim 18, wherein the instructions for said first server sending a Remote Authentication Dial In User Service protocol (RADIUS) access accept message that includes at least a portion of the accounting record further comprise instructions for said first server sending the portion in RADIUS Class Attributes or RADIUS Vendor Specific Attributes.
47. (New) The computer-readable storage medium of Claim 27, wherein the handle to the second accounting record comprises an identifier of the second accounting record that uniquely identifies the second accounting record from among a plurality of accounting records.
48. (New) The computer-readable storage medium of Claim 47, wherein the identifier of the second accounting record comprises one or more of an internet protocol address associated with the client, an internet protocol address associated with the first or second Authentication, Authorization, and Accounting (AAA) server, or a random string.